



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,097	02/05/2004	Christopher Nagy	1725.159US02	3283
24113 7590 05/01/2007 PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A. 4800 IDS CENTER 80 SOUTH 8TH STREET MINNEAPOLIS, MN 55402-2100			EXAMINER LIOU, ERIC	
			ART UNIT 3628	PAPER NUMBER
			MAIL DATE 05/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/773,097		NAGY ET AL.	
	Examiner		Art Unit	
	Eric Liou		3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/16/05</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 3628

DETAILED ACTION

Claim Objections

1. Claims 8-9 objected to because of the following informalities: improper claim numbering. Claims 8-9 improperly recite “the method of claim 9...” Appropriate correction is required. The Examiner interprets claims 8-9 to depend on claim 7 for examination purposes.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 7-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

For a claimed invention to be statutory, the claimed invention must produce a useful, tangible and concrete result. An invention which is eligible for patenting under 35 U.S.C 101, is in the “useful arts” when it is a machine, manufacture, process or composition of matter, which produces a useful, concrete and tangible result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a useful tangible and concrete result. See *AT&T v. Excel Communications Inc.*, 172 F.3d at 1358, 50 USPQ 2d at 1452 and *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d at 1373, 47 USPQ 2d at 1601 (Fed. Cir. 1998). The test for practical application as applied by the examiner involves the determination of the following factors.

Art Unit: 3628

a)“useful” – The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will not that:

- i. utility need not be expressly recited in the claims, rather it may be inferred.
- ii. if the utility is not asserted in the written description, then it must be well established.

b)“tangible” – Applying *In re Warmerdam*, 33 F.3d 1354, 31 UAPQ 2d 1754 Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than manipulation of an abstract idea and is, therefore, nonstatutory under 35 U.S.C 101. In *Warmerdam*, the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

c)“concrete” – Another consideration is whether the invention produces a “concrete” result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

Claim 7 recites the limitations of establishing a read period and reading receivers. However, there is no further step of producing a real world result. Therefore, claims 7-12 lack a tangible result and are not patentable.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. As per claim 1, the limitation “the portion of battery powered receivers” recited in lines 5-6 is indefinite. It is unclear whether “the portion of battery powered receivers” is selected from “a plurality of battery-powered receivers” recited in line 3. In addition, the limitation “electrically-powered receiver within the portion of battery powered receivers” in lines 5-6 is unclear. The Examiner interprets the battery powered receivers to be the electrically-powered receivers and vice versa. The limitation “the portion of electrically-powered receivers” is recited in lines 8-9. It is unclear if “the portion of electrically-powered receivers” is selected from “a plurality of electrically-powered receivers” recited in line 7. Line 8 recites the phrase “a utility meter”. It is unclear whether “a utility meter” (line 8) is the same meter as the utility meter recited in line 4. The limitation “wherein only $(Y/X) \times 100\%$ of the portion of battery-powered receivers are bubbled-up during a read by said reader of the portion of electrically-powered receivers” is recited in lines 15-16. It is unclear what is meant by the phrase “...during a read by said reader of the portion of electrically-powered receivers.” The Examiner interprets the phrase to mean a read by a said reader that has previously read information from an electrically-powered receiver.

Art Unit: 3628

7. As per claims 3, 9, and 15, it is unclear how the AMR system and method reduces falsing of each battery-powered receiver. In addition, when the bubble-up period of battery powered receivers is equal to the bubble-up period of electrically-powered receivers, falsing is not reduced according to the recited formula.

8. As per claim 4, 10, and 16, when the bubble-up period of battery powered receivers is equal to the bubble-up period of electrically-powered receivers, there is no time period where the reader establishes a read time.

9. As per claim 5, 11, and 17, when the bubble-up period of battery powered receivers is equal to the bubble-up period of electrically-powered receivers, it is unclear how each sequenced read time bubbles up a different 100 percent of the portion of battery-powered receivers.

10. As per claim 7, the limitations "said battery-powered receivers" and "said electrically-powered receivers" are recited in lines 4-5. It is unclear how a plurality of each type of receiver can exist when there is one battery-powered receiver and one electrically-powered receiver defined in lines 2-4.

11. As per claim 13, the limitation "a minute-based read period of W" is recited in line 8. It is unclear whether a minute-based read period of W applies to the electrically-powered receivers or the battery-powered receivers or both types of receivers. Also, the claim recites the limitations "said battery-powered receivers" and "said electrically-powered receivers" in lines 6-7. It is unclear how a plurality of each type of receiver can exist when there is one battery-powered receiver and one electrically-powered receiver defined in lines 4-5.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-5, 7-11, and 13-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Hunt et al., U.S. Patent No. 7,049,976.

14. As per claim 1, Hunt teaches an automatic meter reading (AMR) system, comprising: a reader (Hunt: Figure 1, “195”); a plurality of battery-powered receivers (Hunt: Figure 1, “125”, column 4, lines 49-52, and column 14, lines 32-35), wherein at least a portion of said plurality of said battery-powered receivers are operably connected to a utility meter (Figure 1, “112” and “125” and column 4, lines 38-42), wherein each electrically-powered receiver within the portion of battery powered receivers has a bubble-up period of X seconds (Hunt: Figure 1, column 4, lines 14-16 and 65-67, column 5, lines 1-8, and column 6, lines 4-6 – The Examiner notes, it is implied that the receivers have a bubble-up period of X seconds because display/data collector unit 125 transmits power usage data to data center 195.); and a plurality of electrically-powered receivers (Hunt: Figure 1, “125”, column 4, lines 49-52, and column 14, lines 32-35), wherein at least a portion of said plurality of said electrically-powered receivers are operably connected to a utility meter (Figure 1, “112” and “125” and column 4, lines 38-42), wherein each electrically-powered receiver within the portion of electrically-powered receivers has a bubble-up period of Y seconds (Hunt: Figure 1, column 4, lines 14-16 and 65-67, column 5, lines 1-8, and column 6,

Art Unit: 3628

lines 4-6 – The Examiner notes, it is implied that the receivers have a bubble-up period of Y seconds because display/data collector unit 125 transmits power usage data to data center 195. The Examiner interprets time periods X and Y to be equal.); wherein said reader is in wireless communication with the portion of battery-powered receivers and reads the portion of battery-powered receivers every Z hours (Hunt: column 5, lines 3-8 and column 6, lines 4-8, “periodic basis”), and wherein said reader is in wireless communication with the portion of electrically-powered receivers and reads the portion of electrically-powered receivers every W minutes (Hunt: column 5, lines 3-8 and column 6, lines 4-8, “periodic basis”), and wherein only $(Y/X)*100\%$ of the portion of battery-powered receivers are bubbled-up during a read by said reader of the portion of electrically-powered receivers (Hunt: column 14, lines 32-35 – The Examiner notes, in the event of a power outage, all of the display/data collector units run on battery power.).

15. As per claim 2, Hunt teaches the system of claim 1 as described above. Hunt further teaches each electrically-powered receiver within the portion of electrically-powered receivers are read on average of $(1440/W)$ times per day and wherein each battery-powered receiver within the portion of battery-powered receivers are read on average of $(Y/X)*(1440/W)$ times per day (Hunt: column 6, lines 4-6 and column 14, lines 50-59).

16. As per claim 3-5, the limitations are rejected based on the same reasoning as described above.

17. As per claim 7, Hunt teaches a method for automatically reading a plurality of utility meters, wherein a portion of said plurality of utility meters are each operably connected to a battery-powered receiver and wherein a portion of said plurality of utility meters are each

Art Unit: 3628

operably connected to an electrically-powered receiver, wherein each of said battery-powered receivers has a bubble-up period of X seconds and wherein each of said electrically-powered receivers has a bubble-up period of Y seconds, and wherein each of said receivers is capable of being wirelessly read by a reader, the method comprising the steps of: establishing a read period for said battery-powered receivers (Hunt: column 4, lines 49-52, column 6, lines 4-10, and column 14, lines 50-59); establishing a minute-based read period for said electrically-powered receivers, wherein said read period is represented by W (Hunt: column 4, lines 49-52, column 6, lines 4-10, and column 14, lines 50-59 – The Examiner notes, the step of display/data collector unit 125 communicating with data center 195 establishes a read period, which can be represented by minutes.); reading said electrically-powered receivers on average of $1440/W$ times per day (Hunt: column 6, lines 4-6 and column 14, lines 50-59); and reading said battery-powered receivers on average of $(Y/X) * (1440/W)$ times per day (Hunt: column 6, lines 4-6 and column 14, lines 50-59 – The Examiner interprets X and Y to be equal.).

18. As per claim 8, Hunt teaches the method of claim 7 as described above. Hunt further teaches the step of bubbling up $(Y/X) * 100\%$ of said battery powered receivers upon reading said electrically-powered receivers (Hunt: column 14, lines 32-35 – The Examiner notes, during a time period when the receivers are reading data and a sudden power outage occurs, display/data collector unit will run on battery power.).

19. As per claims 9-11, the limitations are rejected based on the same reasoning as described above.

20. As per claim 13, Hunt teaches an automatic meter reading (AMR) system, comprising: a reader (Hunt: Figure 1, “195”); and a plurality of utility meters (Hunt: Figure 1, “112” and

Art Unit: 3628

column 4, lines 38-46), wherein a portion of said plurality of utility meters are each operably connected to a battery-powered receiver and wherein a portion of said plurality of utility meters are each operably connected to an electrically-powered receiver (Hunt: Figure 1, "112" and "125", column 4, lines 49-52, and column 14, lines 32-35 – The Examiner interprets display data collector unit 125 to be the receiver), wherein each of said battery-powered receivers has a bubble-up period of X seconds and wherein each of said electrically-powered receivers has a bubble-up period of Y seconds and a minute-based read period of W (Hunt: Figure 1, column 4, lines 14-16 and 65-67, column 5, lines 1-8, and column 6, lines 4-6 - The Examiner notes, it is implied that the battery-powered receivers and electrically-powered receivers have a bubble-up period of X and Y seconds because display/data collector unit 125 transmits power usage data to data center 195. The Examiner interprets X and Y to be equal. The Examiner further notes, it is implied that there is a read period W because data center 195 reads information from display/data collector unit 125.), and wherein each of said receivers is capable of being wirelessly read by said reader (Hunt: column 5, lines 3-8), wherein said reader reads said electrically-powered receivers on average of $1440/W$ times per day and wherein said reader reads said battery-powered receivers on average of $(Y/X) * (1440/W)$ times per day (Hunt: column 6, lines 4-6 and column 14, lines 50-59).

21. As per claim 14, Hunt teaches the system of claim 13 as described above. Hunt further teaches the said reader bubbles up $(Y/X) * 100\%$ of the battery-powered receivers upon reading the electrically-powered receivers (Hunt: column 14, lines 32-35 – The Examiner notes, during a time period when the receivers are reading data and a sudden power outage occurs, display/data collector unit will run on battery power.).

Art Unit: 3628

22. As per claims 15-17, the limitations are rejected based on the same reasoning as described above.

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claim 6, 12, and 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt et al., U.S. Patent No. 7,049,976 in view of Jennings et al., U.S. Patent No. 5,914,673.

25. As per claim 6, Hunt teaches the system of claim 1 as described above. Hunt further teaches the portion of battery-powered receivers and electrically powered receivers communicate with said reader (Hunt: Figure 1, "125" and "195" and column 5, lines 3-8). Hunt does not teach the battery-powered receivers and electrically-powered receivers communicate on the same frequency channels.

26. Jennings teaches the battery-powered receivers and electrically-powered receivers communicate on the same frequency channels (Jennings: abstract, and column 3, lines 33-35).

27. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Hunt to have included the battery-powered receivers and electrically-powered receivers communicate on the same frequency channels as taught by Jennings because obtaining licensing and maintaining equipment for multiple channels for receivers is costly (Jennings: column 4, lines 49-58).

Art Unit: 3628

28. As per claim 12, Hunt teaches the method of claim 9 as described above. Hunt further teaches said battery-powered receivers and electrically-powered receivers (Hunt: column 4, lines 38-46 and column 14, lines 25-35). Hunt does not teach the battery-powered receivers and electrically-powered receivers communicate on the same frequency channels.

29. Jennings teaches the battery-powered receivers and electrically-powered receivers communicate on the same frequency channels (Jennings: abstract and column 3, lines 33-35).

30. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Hunt to have included the battery-powered receivers and electrically-powered receivers communicate on the same frequency channels as taught by Jennings because obtaining licensing and maintaining equipment for multiple channels for receivers is costly (Jennings: column 4, lines 49-58).

31. As per claim 18, Hunt teaches the system of claim 13 as described above. Hunt further teaches the said battery-powered receiver and electrically-powered receiver (Hunt: column 14, lines 25-35). Hunt does not teach the battery-powered receiver and electrically-powered receiver communicate on the same frequency channels.

32. Jennings teaches the battery-powered receiver and electrically-powered receiver communicate on the same frequency channels (Jennings: abstract and column 3, lines 33-35).

33. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Hunt to have included the battery-powered receiver and electrically-powered receiver communicate on the same frequency channels as taught by Jennings because obtaining licensing and maintaining equipment for multiple channels for receivers is costly (Jennings: column 4, lines 49-58).

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Johnson et al., U.S. Patent No. 6,172,616 drawn to a wide area communications network for remote data generating stations. Bartone et al., U.S. Patent No. 6,633,823 drawn to a system and method for monitoring and controlling energy usage. Davis et al., U.S. Publication No. 2002/0027504 drawn to a system and method for controlling communication between a host computer and communication devices associated with remote devices in an automated monitoring system.

The Examiner has cited particular portions of the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the Applicant, in preparing the responses, fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

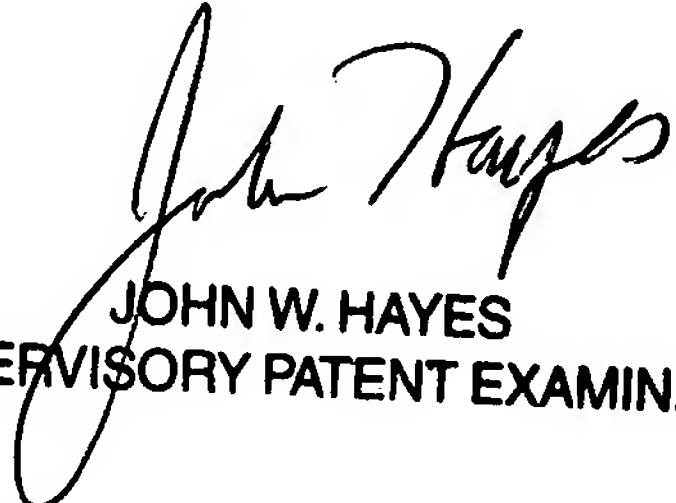
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Liou whose telephone number is 571-270-1359. The examiner can normally be reached on Monday - Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3628

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EL


JOHN W. HAYES
SUPERVISORY PATENT EXAMINER